

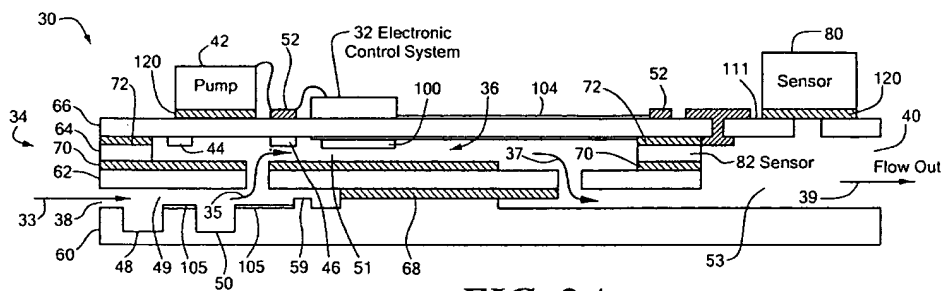
## REMARKS

The applicants appreciate the Examiner's thorough examination of the application and request re-examination and reconsideration of the application in view of the preceding amendments and following remarks.

The Examiner rejects claims 1, 3-4, and 13 under 35 U.S.C. §102(e) as allegedly being anticipated by Barth *et al.* The Examiner rejects claims 1, 3-8, and 13 under 35 U.S.C. §103(a) as allegedly being unpatentable over Barth *et al.* in view of Biegelsen *et al.*

The Examiner seems confused as to what "an entire length of the platform" means as recited in the previous set of claims filed with the Response mailed March 16, 2010. To clarify what the applicants' mean by "the entire length of the platform", the applicants' have amended claim 1 to now clearly recite that the support platform and the microfluidic system includes a channel that extends the entire length of the support platform.

As clearly shown in Fig. 2A of the applicants' specification reproduced below, the claimed microfluidic system includes a plurality of channels 49, 51, and 53 that extend the entire length of support platform 34:

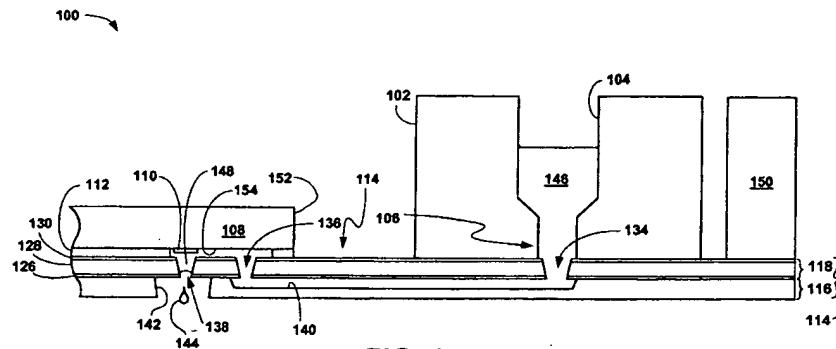


**FIG. 2A**

Thus, it should now be clear that the applicants' claimed microfluidic system includes a plurality of channels that extend the entire length of the platform and are

Barth *et al.*, on the other hand, fails to teach or disclose a plurality of channels that extend the entire length of the platform which are configured to circulate a fluid over the surfaces of the at least one fluidic component.

Instead, Barth *et al.* teaches capillary 140, the alleged electrofluidic component, which extend through only a portion of sheets 116 and 118. As clearly shown in Fig. 1 of Barth *et al.*, reproduced below, channel 140 extends only from liquid access holes 134 to firing chamber 148:



**FIG. 1**

The end of firing chamber 148 is walled off by deposition chip 118, barrier 112 and sheet 118. Barrier 112 forms a solid barrier against liquid flow between hundreds of firing chambers having a similar structure to firing chamber 148, which are laterally adjacent to one another and which are all adjacent to deposition chip 108 at surface 154. *See* Col. 5, lines 1-49. Therefore, changing the design of channel 140 of Barth *et al.* to extend the entire length of the fluid handling system would render the device inoperable.

Therefore, for at least the reasons stated above, Barth *et al.* fails to teach or disclose each and every element of the applicants' invention as now recited in claim 1, namely, a microfluidic system embedded in said platform including an input and an output and at least

one electrofluidic component, the microfluidic system including a plurality of channels extending the entire length of the support platform and configured to circulate a fluid over surfaces of the at least one electrofluidic component.

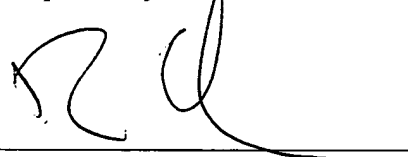
Accordingly, independent claim 1 and the dependent claims rejected by the Examiner which depend from claim 1 are patentable and allowable under 35 U.S.C. §102(b) over Barth *et al.*

The Examiner rejects claims 1, 3-8 and 13 under 35 U.S.C. §103(a) as allegedly being unpatentable over Barth *et al.* in view of Biegelsen *et al.* (U.S. Patent No. 5,971,355). As discussed above Barth *et al.* fails to teach or disclose the features of the microfluidic system as now recited in applicant's independent claim 1. Biegelsen *et al.* also fails to teach or disclose these features. Accordingly, the Examiner's rejection of claims 1, 3-8 and 13 under 35 U.S.C. §103(a) is traversed.

Each of the Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'RJC', written over a horizontal line.

Roy J. Coleman  
Reg. No. 48,863